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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,518	02/12/2004	Mihoko Kitamura	31759-200976	5345

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EXAMINER

SIEDLER, DOROTHY S

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2626

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/776,518	Applicant(s) KITAMURA, MIHOKO	
	Examiner Dorothy Sarah Siedler	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2-12-04</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This office action is the initial response to the application filled February 12, 2004.

Claims 1-18 are pending and are considered below.

#### ***Claim Objections***

Claims are objected to because of the following informalities: Claims 4,5,6,8,13,14,15,16, and 17 recite, "with-sentence-IC", however the examiner considers this a typographical error. Therefore the examiner interprets every instance of "with-sentence-IC" as, "with-sentence-ID".

Appropriate correction is required.

#### ***Specification***

The disclosure is objected to because of the following informalities: pages 9,11 and 13 recite, "with-sentence-IC", however the examiner considers this a typographical error. Therefore the examiner interprets every instance of "with-sentence-IC" as, "with-sentence-ID".

Page 2 recites, "The technique using past cases does not requires", which the examiner considers a typographical error. The applicant is encouraged to review the specification and correct any and all grammatical and spelling errors.

Appropriate correction is required.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 19 is rejected under 35 U.S.C. 101 because the claimed limitation is directed to non-statutory subject matter.

Claim 19 falls within a judicial exception as merely claiming an abstract idea. Claim 19 recites, "the natural language processing method according to claim 10 is described in a code which can be executed by a computer", however this limitation is drawn to functional descriptive material *per se*. The MPEP requires functional descriptive material, i.e. a program or software, to be recorded or encoded on a computer-readable medium, therefore causing a functional and structural interrelationship between the descriptive material and the medium. This structural and functional interrelationship enables, with the use of technology, the realization of the descriptive material.

Lacking the claim language as required by the MPEP, claim 19 is drawn to functional descriptive material *per se*, and as such is non-statutory.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6 and 10-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claims 1 and 10 recite, "a with-sentence-ID pattern rule dictionary in which a pattern rule to which a sentence ID representing the probability of simultaneously applying a pattern rule to the same sentence is given is stored", however the grammatical and logical errors within this sentence preclude a determination as to the scope of this limitation.

Claims 2 and 11 recite, "after the syntax parsing section obtains a syntax parsing result constituted by a tree structure of a plurality of pattern rules without consideration of the sentence ID, on the bases of the sentence ID given to the pattern rules included in the result, " however this is a contradiction. Therefore the examiner interprets this limitation as cancellation of a plurality of parse candidates.

Regarding claims 8 and 17, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d). In addition, the sentence is incomplete, thus preventing a determination as to the scope of the limitation. Therefore the examiner interprets this limitation as stating that the system includes general purpose and terminology dictionaries. This interpretation used throughout the remainder of this office action.

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In light of the extent of the 35 U.S.C. §112 2nd rejections of claims 1-6, and 10-15, these claims are given the best reasonable interpretation in terms of the art cited below.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 10-16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by ***Horiguchi*** (6,243,669).

As per claims 1 and 10, ***Horiguchi*** discloses a natural language processing apparatus which uses a pattern rule having at least a pattern name and a pattern constituent element to obtain a syntax parsing result of at least an input sentence, comprising:

A with-sentence-ID pattern rule dictionary in which a pattern rule to which a sentence ID representing the probability of simultaneously applying a pattern rule to the same sentence is given is stored (Abstract, column 10 lines 40-46 and column 14 lines 16-20, *a parser, using statistical processing, determines a syntactic structure of the*

*source and target data, then uses the syntactic structure to determine production rules for translation);*

A morphological parsing section for morphologically parsing an input sentence to be parsed (column 9 lines 66-67); and

A syntax parsing section which obtains a syntax parsing result constituted by a tree structure of a plurality of pattern rules with respect to a morphological parsing result with reference to the with-sentence-ID pattern rule dictionary and which employs a tree structure between pattern rules having pattern rules to which the same sentence ID is given and which increase in number (column 10 lines 1-3).

As per claims 2 and 11, **Horiguchi** discloses a natural language processing apparatus according to claim 1, wherein, after the syntax parsing section obtains a syntax parsing result constituted by a tree structure of a plurality of pattern rules without consideration the sentence ID, on the basis of the sentence ID given to the pattern rules included in the result, cancellation of a plurality of candidates is performed such that the number of pattern rules to which the same sentence ID is given increases, and a final syntax parsing result is obtained (column 14 lines 46-60, *an initial fast match then a detailed best match are performed, thus identifying and combining multiple matches to produce a best match for the input*).

As per claims 3 and 12, **Horiguchi** discloses a natural language processing apparatus according to claim 2, wherein when the syntax parsing section count the pattern rules to which the same sentence ID is given, if a plurality of same pattern rules exist in a disjunctive structure, the pattern rules are counted one pattern rule (column 28 line 55-column 29 line 5, *when building the parse structure, if an ambiguity exists a disjunctive structure is used. The disjunctive structure represents more than one node corresponding to a pattern rule*).

As per claims 6 and 15, **Horiguchi** discloses a natural language processing apparatus according to claim 1, wherein, as a dictionary from which a pattern rule is retrieved, in addition to the with-sentence-ID pattern rule dictionary, a general-purpose pattern rule dictionary in which general-purpose pattern rules having no sentence ID are stored is arranged (column 14 lines 27-34, *a hybrid translation system is used with rule based and a knowledge based dictionaries*).

As per claims 7 and 16, **Horiguchi** discloses a natural language processing apparatus according to claim 1, wherein a pattern rule with sentence ID can be additionally registered in the with-sentence-ID pattern rule dictionary (Abstract, column 10 lines 40-46 and column 14 lines 16-20, *a parser, using statistical processing, determines a syntactic structure of the source and target data, then uses the syntactic structure to*



*determine production rules for translation. Since the rules are used for translation, it is inherent that they are registered).*

As per claims 9 and 18, **Horiguchi** discloses a natural language processing apparatus according to claim 1, wherein the natural language processing apparatus is a mechanical translation apparatus (column 7 lines 59-61), and the syntax parsing section performs syntax parsing to an original-language sentence (column 14 lines 39-42).

As per claim 19, **Horiguchi** discloses a natural language processing program in which the natural language processing method according to claim 10 is described in a code which can be executed by a computer (column 8 lines 39-45).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims rejected under 35 U.S.C. 103(a) as being unpatentable over **Horiguchi** in view of **Dowding** ("Interleave Syntax and Semantics in an Efficient Bottom-Up parser" ACL 1994).

As per claims 4,5,13 and 14, **Horiguchi** discloses a natural language processing apparatus according to claim 1, however **Horiguchi** does not disclose wherein the syntax parsing section determines lower pattern rules of a tree structure with reference to the with-sentence-IC pattern rule dictionary in each morpheme in the morphological parsing result and performs retrieval of an upper pattern rule for each of the lower pattern rules in preference to pattern rules to which the same sentence ID as that given to the lower pattern rules to obtain a final syntax parsing result, wherein the syntax parsing section determines lower pattern rules of a tree structure with reference to the with-sentence-IC pattern rule dictionary in each morpheme in the morphological parsing result, detects a sentence ID which is frequently given to the plurality of predetermined lower pattern rules, and performs retrieval of an upper pattern rule for each of the lower pattern rules in preference to pattern rules to which the same sentence ID as the detected sentence ID to obtain a final syntax parsing result. **Horiguchi** uses a Generalized Left-Right (GLR) Parser. **Dowding** discloses the use of a bottom-up parser as an alternative to left-corner parsers (introduction). **Horiguchi** and **Dowding** both disclose system for syntactic parsing, and are therefore analogous art.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the bottom-up parser for the Generalized Left-Right parser in **Horiguchi**, since it would avoid the problem of practical context-free parsers by enabling the parser to find well-formed phrases, as indicated in **Dowding** (Introduction, second paragraph), while achieving the predictable result of producing a syntax parse.

Claims 8 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Horiguchi** in view of **Miike** (4,831,529).

**Horiguchi** discloses a natural language processing apparatus according to claim 1, however **Horiguchi** does not disclose wherein, as the with-sentence-ID pattern rule dictionary, a plurality of with-sentence-ID pattern rule dictionaries which are discriminated depending on documents, fields, and the like. **Miike** discloses a system for machine translation that uses general purpose and nomenclature dictionaries (column 2 lines 40-45). **Horiguchi** and **Miike** both disclose systems for machine translation, and are thus analogous art.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use general purpose and nomenclature dictionaries in **Horiguchi**, since it would enable the system to translate complicated natural languages, as well as terminology, as indicated by **Miike** (column 1 lines 27-33).

### **Conclusion**

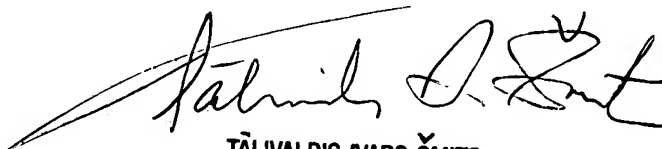
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see the PTO-892 form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dorothy Sarah Siedler whose telephone number is 571-270-1067. The examiner can normally be reached on Mon-Thur 9:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DSS



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